EXECUTIVE SUMMARY

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Project Purpose

The project developed an educational outreach and certification program for the Maricopa County PM_{10} nonattainment area. A program for construction industry personnel was developed to increase construction industry awareness of the provisions of Maricopa County Rule 310 and provide tools to assist construction workers in reducing fugitive dust. The program builds upon educational outreach work already done by the Arizona Department of Transportation (ADOT) and Maricopa County. Ideas were solicited from contractors and peer agencies concerning the most feasible and effective dust mitigation practices.

Background Research

The "Revised MAG 1999 Serious Area Particulate Plan for PM_{10} for the Maricopa County Nonattainment Area" submitted to Environmental Protection Agency (EPA) by the Maricopa Association of Governments (MAG) in 2000 indicates that 43 percent of PM_{10} emissions in 1995 were from sources such as construction/earthmoving dust, construction trackout, nonroad engine exhaust, and construction windblown dust. Most of the control measures contained in the plan address control of fugitive dust from these sources and were implemented through the enactment of Maricopa County Rule 310.

Most stringent control measures and best management practices for controlling fugitive dust were identified, and agency experience with various dust palliatives was documented.

Identification of Outreach Materials, Audiences, and Appropriate Message

As a guide to identifying effective outreach materials and methods, existing outreach and educational programs of selected regional agencies were reviewed and documented. Different outreach methods are effective with different audiences. Construction industry corporate management, job site management, and job site labor comprise the complete target audience, and appropriate approaches for specific construction industry circumstances were identified.

The project team concluded that language based on Rule 310 provisions would need to be drafted to explain each concern in terms that are easily understood, provide realistic "rules of thumb" for determining when control measures are needed, and provide easy to follow directions for implementing the control measures. Adherence to the provisions of Rule 310 during construction earthmoving activities and controlling "trackout" onto paved roads were identified as the two most effective ways of controlling fugitive dust.

Following the review of dust control practices outreach efforts of other jurisdictions and the collateral material used in these efforts, the project team developed a draft outreach program

with input from the Technical Advisory Committee. The prototype components developed are:

- "Blue Skies" program name and logo.
- Bilingual program brochure and bilingual "Guide to Construction Dust Control Measures" designed to promote the Blue Skies program to prospective participants
- Bilingual "Quick Reference Guide."
- Fact sheet handouts designed to be widely distributed at job sites.
- Opacity chart designed to aid in estimating the opacity of dust plumes.
- Dust control training course and certification program.

Dust Control Training Course and Certification Program

Training modules have been developed for training construction personnel in understanding dust problems and dust control measures. Upon completion of the course the trainee will have the following skills:

- Basic understanding of dust problems and measures to mitigate dust at construction sites.
- Ability to identify dust problems.
- Ability to implement actions to reduce dust at construction sites.

The course is designed for anyone working in the construction field, and site superintendents, water truck and water pull drivers, and subcontractors are highly encouraged to attend. In addition to lectures, the course includes class discussion and review of actual field case studies.

The course is designed to be presented in a half-day format. The course begins with a 10-minute Rule 310 overview video developed by the Maricopa County Environmental Services Department. The course can be tailored to the needs of specific groups by eliminating modules or parts of modules. Summaries of the six training modules are presented below:

Module 1 - Background will cover the reasons that dust control is needed, and the causes of PM_{10}. Both natural and man-made sources of fugitive dust will be identified, and actions that have already been taken to reduce PM_{10} emissions will be explained. Control measures implemented in these areas, such as the Rule 310 in Maricopa County, will be discussed.

Module 2 - Construction Dust Control Requirements will explore in detail the construction dust control requirements in effect for the jurisdiction in which the course is being presented. Dust control measures for construction-related activities will be explained.
Module 3 - Enforcement of Dust Control at Construction Sites will cover jurisdictional enforcement, including the characteristics of the dust control enforcement program, inspection criteria, enforcement procedures, and penalties for violations, as appropriate for the jurisdiction in which the course is being presented.

Module 4 - Strategies to Assist Construction Activities in Controlling Dust will examine dust control strategies including project design and site planning. A case study of a construction project will be included.

Module 5 – Visible Emissions Evaluation at Construction Sites will describe the techniques used to identify the opacity levels of dust generated by construction activities. The script and slides for this module will be developed by the Arizona Department of Environmental Quality (ADEQ), which provides Visible Emissions Evaluations Training.

Module 6 - Information Resources and Reinforcements will discuss additional information that supplements and reinforces the material covered in class. Participants will be given a final exam that can be used for certification purposes.

Each of the modules has been structured as a PowerPoint presentation containing text and graphics as training aids. An accompanying "Dust Control Course Trainer's Guide" contains suggested step-by-step commentary for each module, as well as examples of a dust control log and earthmoving permit for reproduction and distribution to class attendees.

Certification Program

The goal of the certification program is to establish minimum standards for mastering and teaching information on construction dust control problems and measures. The certification program is designed for construction industry management and job-supervisory personnel. Two levels of certification are offered:

Certified Dust Control Specialist - An individual who completes dust control training and passes an exam covering the subject matter presented in the course with a grade of 75 percent or better, may receive designation as a Certified Dust Control Specialist. To maintain certification, a specialist must take the dust control training and pass the final exam once every two years.

Certified Dust Control Instructor - To be certified as a dust control instructor, an individual must complete both dust control training and ADEQ Visible Emissions Evaluations Training and must act as a student trainer.

A Blue Skies program coordinator will establish standards that must be met in order to receive instructor certification. The program coordinator would keep the instructors apprised of changes in the course material. Instructors would keep the coordinator informed about classes being taught, attendance levels, and collateral materials required (i.e., toolkits and certification cards).

Implementing the Program

The implementation of the Blue Skies program consists of five major components:

- Establish institutional framework.
- Finalize and publish collateral material.
- Initiate outreach and education campaign.
- Establish certification program.
- Continue campaign/training.

Successful implementation of the Blue Skies program will require a strong institutional arrangement among the key agency and construction stakeholders. ADOT is a strong candidate for the lead agency to implement the Blue Skies program.

Potential sources of funding, personnel and other resources for the program include ADOT, Maricopa County, EPA, Western Regional Air Partnership, ADEQ, and Congestion Mitigation and Air Quality Improvement (CMAQ) funds received by the MAG. Opportunities for linking the Blue Skies program with other outreach programs having similar target audiences exist.

A Blue Skies coordinator must be selected to manage the program and finalize the development and dissemination of collateral material, and a workshop presentation or kickoff event should be held to initiate the training program.

Measuring Program Effectiveness

The Blue Skies program activities must be continuously monitored in order to determine the success of the program in educating the general public and construction industry as well as reducing dust at construction sites. A framework has been developed to measure the success of the Blue Skies program. Elements of a strong performance measurement process would include the following step-by-step procedure:

- Identify outreach goals.
- Identify and define measures of effectiveness to measure goals.
- Identify data sources.
- Develop mechanisms to collect data.
- Establish base line data for each measure.
- Tabulate and graph measures of effectiveness.
- Evaluate the performance of the program.